

REMARKS

Claims 1, 2, 4-11, 13-24 and 29-41 are pending. Claims 1, 2, 4-6, 11, 13-22, 24, 29, 30, 34 and 40 are rejected. Claims 7-10 are objected to. Claims 1, 14, 15 and 21 are amended. The applicant respectfully traverses the rejections and requests reconsideration and reexamination in view of the remarks and amendments herein.

I. Objection to the Specification

The Examiner objected to a paragraph at page 8 of the disclosure, which has been amended herein to address the Examiner's concern.

II. The § 102 Rejections

Claims 1, 2, 4-6, 11 and 13

Claims 1, 2, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,645,474 ("Kubo"). Claim 1 recites a carrier head as follows:

A carrier head for chemical mechanical polishing, comprising:
a base having at least a portion formed of a polymer;
a mounting assembly connected to the base having a surface for contacting a substrate;
a retainer secured to the portion of the base to prevent the substrate from moving along the surface; and
a damping material secured between the retainer and the portion of the base to reduce the translation of vibrational energy between the retainer and the base, wherein the damping material does not rebound to its original shape after being deformed.

The Examiner asserts that the insert ring 6 disclosed in Kubo and shown in Fig. 2 is a "damping material secured between the retainer and the portion of the base" as required in the fourth limitation of claim 1. The applicant respectfully submits the Examiner has misconstrued the insert ring 6 disclosed in Kubo. The insert ring 6 is a ring of a particular thickness that is inserted into the apparatus to deal with a workpiece of a particular thicknesses [Col. 6, lines 23-24]. That is, the insert ring 6 can be changed depending on the thickness of a workpiece [Col. 6, lines 25-29]. Further, Kubo states that the preferred material for the insert ring 6 is rigid.

Claim 1 calls for a “damping material” that will “reduce the translation of vibrational energy between the retainer and the base”. There is no suggestion in Kubo that the insert ring 6 will reduce the translation of vibrational energy between the retainer and the base. By contrast, Kubo teaches the insert ring being formed from a rigid material; a rigid material would tend to translate vibrations, rather than dampen them.

Further, the backup ring 5 disclosed in Kubo also is not the damping material required by claim 1. The backup ring 5 is “formed of a material which causes elastic deformation” and is “easily compressed or expanded”. An elastic deformation, by definition, is a deformation that is self-reversing after the force causing the deformation is removed, so that the object returns to its original shape. By contrast, the damping material required by claim 1 is a material that does not rebound to its original shape after being deformed.

Accordingly, the applicant respectfully disagrees with the Examiner that Kubo's insert ring 6 discloses the damping material recited in claim 1, and requests that claim 1 be allowed. Claims 2, 4-6, 11 and 13 depend from claim 1 and are therefore allowable for at least the same reasons.

Claims 14-20

Claim 14 recites a carrier head. The carrier head includes “a damping material secured between the retainer and the base to reduce the translation of vibrational energy between the retainer and the base”. The Examiner rejected claim 14 on the same basis as claim 1 discussed above, *i.e.*, as being anticipated by Kubo. As discussed above in relation to claim 1, neither Kubo's insert ring 6 nor backup ring 5 are a damping material as required by claim 1. Accordingly, claim 14 is in condition for allowance. Claims 15-20 depend from claim 14 and are therefore allowable for at least the same reasons.

III. The § 103 Rejections

Claims 21-24, 29, 30 and 40

The Examiner rejected claim 21 under 35 USC 103(a) as being unpatentable over Kubo. The Examiner asserts that Kubo discloses a retainer formed from a polyimide. Claim 21 has been amended to delete the “imidized thermoset polyimide” material. Accordingly, claim 21 is

in condition for allowance. Claims 22-24 depend from claim 21 and are therefore allowable for at least the same reasons.

The Examiner further rejected claim 21 under 35 USC 103(a) as being unpatentable over US Patent No. 3,747,282 ("Katze"). The Examiner asserted that Katze discloses a retainer, at least a portion including polytetrafluoroethylene and that it would have been obvious to one having ordinary skill in the art to provide any of the particular materials recited for the retaining ring. The Examiner concedes that Katze does not disclose a retainer including a bottom portion including perfluoroalkoxy, polyetherketoneketone, polybenzimidazole, a semi-crystalline thermoplastic polyester, or a long molecular chain molecule produced from poly-paraphenylene. Similarly the Examiner rejected claim 29 as being unpatentable over Katze. Claim 29 describes a retainer that has a bottom portion including a material selected from the same group as set forth in claim 21.

The applicant respectfully submits there is no motivation expressed in Katze to modify Katze to provide a retainer formed from one of the materials recited in claims 21 and 29. Rather, the Examiner has impermissibly used hindsight in an attempt to reconstruct the applicant's invention. It is improper to use the applicant's disclosure as the motivation to combine the particular teachings in the cited references: "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure". See, M.P.E.P. 2143, citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

Further, it is respectfully submitted that merely because prior art can be modified is not sufficient to render a claim *prima facie* obvious. See M.P.E.P. § 2143.01, which sets forth the applicable standard:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (*In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990)).

As held by the Court of Appeals for the Federal Circuit, in imposing a rejection under 35 U.S.C. §103, the Office Action must make a "thorough and searching" factual inquiry and, based upon that factual inquiry, explain why one having ordinary skill in the art would have been realistically motivated to modify the circuit design method to arrive at the claimed invention.

See, *In re Lee*, 237 F.3d 1338, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). That burden has not been discharged.

Accordingly, the grounds of rejection cited by the pending Office Action are requested to be withdrawn. Claims 21 and 29 are in condition for allowance. Claims 22-24 depend from claim 21 and are allowable for at least the same reasons as claim 21. Claims 30 and 40 depend from claim 29 and are allowable for at least the same reasons as claim 29.

IV. Allowable Subject Matter

The Examiner objected to claims 7-10 as being dependent upon a rejected base claim, but indicated they would be allowable if rewritten in independent form. In view of the amendment and remarks herein, the applicant respectfully submits that the base claim 1 is in condition for allowance, and respectfully requests that claims 7-10 be allowed as well.

By responding in the foregoing remarks only to particular positions taken by the examiner, the applicant does not acquiesce with other positions that have not been explicitly addressed. In addition, the applicant's arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist.

Please deduct \$120 from Deposit Account No. 06-1050 for the Petition for Extension of Time fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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